



ARMY SAFE  
IS ARMY STRONG



# Tactical Safety



# References

- AR 385-10, *The Army Safety Program*
- AR 600-55, *The Army Driver And Operator Standardization Program (Selection, Training, Testing and Licensing)*
- DA Pam 385-1, *Small Unit Safety Officer/NCO Guide*
- DA Pam 385-10, *Army Safety Program*

# References

*Continue*

- FM 4-01.011, *Unit Movement Operations*<sup>d</sup>
- FM 4-01.45, *Multi-service Tactics, Techniques, and Procedures for Convoy Operations*
- FM 5-19, *Composite Risk Management*
- FM 21-305, *Manual for the Wheeled Vehicle Driver*
- FM 55-30, *Army Motor Transport Units and Operations*

# Terminal Learning Objective

## Action:

Explain requirements for tactical operations safety and accident prevention.

## Conditions:

During group discussions regarding tactical operations.

## Standard:

Explanations must address predeployment, redeployment, movement, convoy operations, and base operations as related to tactical operations.

# Lesson Data

- Safety Requirements
- Risk Assessment
- Environmental Conditions
- Evaluation
  - Oral questions
  - Participation during class discussions

# Overview

- Four main topics focusing on tactical operations safety
  - Predeployment and Redeployment
  - Movement Operations
  - Convoy Operations
  - Base Operations



# Enabling Learning Objective A

## Action:

Describe predeployment and redeployment safety concerns.

## Conditions:

During group discussions regarding tactical safety.

## Standards:

Descriptions must address identifying and controlling related hazards.

# Preparing for Predeployment

Crucial to a successful deployment

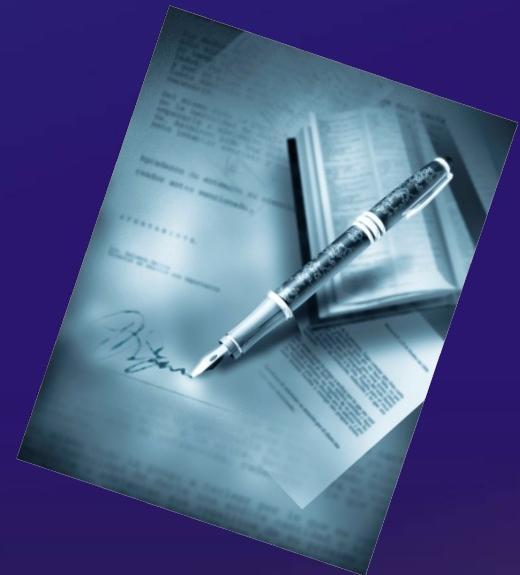


# Predeployment Preparation

- Prepare for tactical operations well in advance of deployment
- Begin mission planning and orders production and address:
  - Composite risk management (CRM)
  - Safety management specific issues

# Mission Planning

- Work closely with unit leaders
  - Evaluate mission
  - Identify and assess hazards and determine controls for reducing risks
- Brief subordinates on all requirements



# Safety Personnel Planning

- All unit safety personnel and collateral duty safety personnel should meet
  - Review the operations order and its safety implications
  - Coordinate responsibilities
- Meet periodically during training and tactical operations
  - Share experiences and lessons learned

# Predeployment Training

- All participants will be provided safety training
  - Required PPE
  - General safety pertaining to operations
  - Special safety requirements
  - Lessons learned
  - Reporting and responding to accidents



# Motor Vehicle Safety Training

- Use of ground guides
- Load plans
- Transporting HAZMAT
- PMCS
- Environmental factors
- Driving methods and standards
- Risks and hazards
- Reacting to hazards



# Equipment Checks

- Leaders must conduct Pre-Combat Inspections (PCI) in advance
  - Ensure Soldiers have time to acquire needed/required items
  - Soldiers should also conduct Pre-Combat Checks
- Take into consideration the need for cold and/or hot weather gear

# Going Home! Planning for Redeployment

What are the risks  
and  
considerations  
regarding the  
return “home?”



# Redeployment Planning Considerations

- Begin planning 6 to 8 months out
- First line leaders should watch for “get-home-itis” (personnel may lose task/mission focus)
- Pre-departure briefings and appointments must be scheduled and completed
- Medical concerns need to be addressed and line-of-duty (LOD) investigations are complete if needed

# Preparing for Departure: Potential Risk

- Wash rack when cleaning equipment prior to departing theater
- Convoy operations, if part of redeployment
  - Ensure personnel are rested
  - Ensure procedures and standards are known and enforced.

*Use CRM to identify hazards  
and implement controls to  
reduce risks*

# Postdeployment and Reconstitution

- Primary consideration: reset each individual's risk acceptance threshold
  - Training and education sessions
  - Redeployment surveys
  - Additional medical screening
- Provide information to Soldiers and their Families



# Postdeployment and Reconstitution

*Continue  
d*

- Emphasize privately owned vehicle (POV) safety
- Brief on at-risk behaviors that frequently occur upon return using “SSAF-D” as a guideline
  - **S**peed
  - **S**eatbelts (non-use)
  - **A**lcohol/Aggressive driving
  - **F**atigue
  - **D**distracters



# POV Hazard Considerations

- Tactical and POV driving differences
- Condition of POV after lengthy storage
- Likelihood of driving long distances
- Readjustment to CONUS driving
- Effects of alcohol and fatigue
- Mindsets and bad habits

# Redeployment Medical Requirements

- In-theater
  - Post-deployment medical threat briefing
  - Complete post-deployment health assessment
  - Post-deployment medical screening
  - Understand where to go for health problems



# Redeployment Medical Requirements

*Continue  
d*

- Home Station
  - Tuberculosis (TB) skin test
  - Blood draw
  - Indicated referral appointments



# Common Health Problems

- Temporary changes in health after redeployment may occur because of situations such as:
  - Time zone change and jet lag
  - Climate change
  - Change in diet
- Other symptoms may need medical attention

# Common Health Problems

*Continue*

- May refer to U.S. Army Center for Health Promotion and Preventive Medicine (CHPPM) Guides available on line



<http://usachppm.apgea.army.mil/>

# Potential Health Problems

- Post Combat Stress
  - Stress caused by the effects of combat and operational experiences during deployment
- Post Traumatic Stress Disorder (PTSD)
  - A condition that is often caused by a terrifying event affecting the person physically, behaviorally, and/or emotionally

# \*Symptoms That May Indicate PTSD

Physical	Behavioral	Emotional
Fatigue	Withdrawal	Anxiety
Weakness	Emotional Outbursts	Guilt
Nightmares	Paranoia	Denial
Muscle Tremors	Alcohol Consumption	Depression
Pounding Heart	Restlessness	Agitation
Chest Pain	Suspicion	Panic
Difficulty Sleeping	Loss of Interest	Fear/Apprehension
Difficulty Breathing	Substance Abuse	Irritability
Headaches		Intense Anger

\*Consult Healthcare Provider

# Possible Signs of Suicidal Behavior

- Appears depressed
- Exhibits a poor appetite
- Constantly tired
- Talks about dying or threatens suicide
- Shows negative changes
- Drugs/alcohol abuse
- Deliberately injures self
- Gives away possessions

# Peer Suicide Prevention - ACE

A - Ask: Are you thinking of suicide

C - Care: Care for your buddy

E - Escort: Escort them to help and

never leave the person alone

# Redeployment Medical Briefings

- Provide health threat briefings (include spouses)
  - Health related symptoms and myths
  - Potential signs and symptoms of distress/stress
  - Potential signs of suicidal thoughts
  - Treatment options

# Leader Engagement and Risk Management

- Must begin in theater and continue at the home station
- Involves leaders at all levels
- Helps ensure Soldiers are safe and do not become a casualty
- Requires the use of CRM to mitigate hazards

# Leader Engagement and Risk Management

*Continue  
d*

- Continuously review and apply standing operating procedures and redeployment plans
- Be engaged to ensure Soldiers are safe
- Help Soldiers apply CRM to all activities and operations
- Distribute redeployment handouts
- Monitor behaviors

# Leader Engagement and Risk Management

*Continue  
d*

- As Soldiers return to home station:
  - Ensure they understand climate differences
  - Allow enough time for decompression
  - Commanders & staff must take part in redeployment counseling sessions

# Leader Engagement and Risk Management

*Continue  
d*

- As Soldiers return to home station:
  - Never allow a situation to arise that requires action and not have a command presence at the HQ rear
  - Plan time to inspect vehicles and ensure leaders review TRiPS information with Soldiers prior to departure

# Leader Engagement is Valuable

Leaders that are ***actively involved*** in the Soldier's health and welfare fosters ***safe behaviors*** and ***team loyalty*** while ***maintaining discipline!***

# Check On Learning

- What level should you brief mission risk and risk reduction measures?
  - Squad Level
- What are five main POV hazards?
  - Speed, Seatbelts, Alcohol/Aggressive driving , Fatigue, and Distractors

# Check On Learning

- In Peer suicide prevention, what does the acronym ACE stand for?
  - **A**sk: Ask directly if your buddy is thinking of suicide
  - **C**are: Care for your buddy
  - **E**spect: Never leave them alone, escort them to help

# What are Your Questions



# Enabling Learning Objective B

Action:

Describe safety requirements involving unit movement operations.

Conditions:

During group discussions.

Standards:

Descriptions must address general requirements and specific requirements for movement by rail, air, and sea.

# Reference

OCTOBER 2002

FM 4-01.011

## UNIT MOVEMENT OPERATIONS

DISTRIBUTION RESTRICTION:  
Approved for public release; distribution is unlimited.

HEADQUARTERS,  
DEPARTMENT OF THE ARMY

# Unit Movement Roles & Responsibilities

- Brigade, battalion, and company level organizations
  - Select Soldiers to be trained in unit movement operations
- Selected Soldiers are appointed on additional duty orders and are trained as:
  - Unit Movement Officer
  - Hazardous Cargo Certifying Official
  - Unit Loading Team Member

# Commanders Responsibilities

- Ensure proper and safe execution of unit movements
- Appoint in writing,
  - An Officer or Senior NCO (E6 or above) as a Unit Movement Officer (UMO)
  - An alternate UMO (E5 or above)
  - Ensure proper training is provided to the UMO

# UMOs Responsibilities

- Represent the commander in attending to unit movement details
  - Ready the unit for movement
  - Maintain readiness once achieved
- Maintain proficiency to enhance unit readiness and expedite response time in a crises

# Hazardous Cargo Certifying Official

- Each unit (company or detachment) requires at least one trained individual to certify hazardous cargo
  - Appointed in writing by the unit commander
  - Trained at a DoD approved school
  - Should *NOT* be the UMO

# Unit Loading Teams

- Execute the load plans by securing the load on the truck, aircraft, or railcar by:
  - Physically loading
  - Blocking
  - Bracing
  - Tying down
- Appointed in writing and trained in the related functions

# Movement Training

- Units require trained personnel to perform special duties to include:
  - UMO
  - Unit Loading Teams
  - Hazardous Cargo Certifying Officials
- MACOMs have specific policies for appointing and training personnel to perform the special duties

# Support Requirements

- Typical deployment support requirements:
  - Life support (including medical)
  - Materiel handling equipment
  - Container movement
  - Purging operations
  - Waste and excess fuel

# Movement by Mode

Rai



Air



Sea



# Movement by Rail

- Loading and unloading operations must be conducted carefully to prevent:
  - Personnel injuries
  - Loss of equipment



# Railcar Loading Site

- Includes a medical aid station
- Should include:
  - Command and control facilities
  - Warming tents
  - Other life support services



# Safety Requirements

- Must be strictly followed
  - Safety briefing required prior to loading/unloading
  - OIC/NCOIC will conduct a risk assessment before operations using the composite risk management process

# Safety Requirements

*Continued*

- The 5-step composite risk management (CRM) process is vital to safe unit movement
- All rail load personnel must be alert for any unsafe actions or situations



# Safety Requirements

*Continue*

- No vehicle will be moved while on a railcar or onto a railcar without three guides
  - One car guide to the front of the vehicle being moved
  - Two side (ground) guides (one on the ground on each side of the vehicle being moved)

# Car / Ground Guides

- Only the car guide (front of the vehicle) may give instructions to the vehicle driver
  - Side guides will keep the car guide advised of the location of the vehicle in relation to the edges of the railcar



# Car / Ground Guides

*Continued*

- Car guides must ensure that vehicles are not driven onto spanners until it is verified that the spanners are properly aligned, set, and secured.
- Vehicles must not stop on spanners



# Additional Safety Guidelines

- Proper personal protective equipment (PPE) must be worn by all loading personnel
  - Leather gloves
  - Hard hats or helmets
  - Eye protection (goggles) is highly recommended
  - Goggles are required when driving nails into blocking material

# Special Considerations

- Loading ramps pose unique problems with condition and environment
- Inspect carefully to help ensure safer loading and unloading operations



# Special Considerations

*Continue  
d*

- Ensure drivers are licensed and qualified on the equipment
- Power lines must be “de-energized” prior to the start of operations
- Remove or tie down antennas
- Prepare for emergency action /evacuation
- Incorporate a rest plan for extended operations

# Special Considerations

*Continue*

- Availability of maintenance and recovery assets to ensure safe maintenance practices are adhered to
  - Load last and offload first
  - Ensure mechanics and tool boxes are available as well
  - Using the right tools and equipment for the job can help prevent injuries

# Movement by Air



# Air Load Planners

- Must be appointed and trained
- Prepare and update unit aircraft load plans
- Develop manifests for both equipment and personnel

*Note:* The UMO has the responsibility to supervise the development of aircraft the load plans and manifests

# Arrival/Departure Airfield Control Group

- A/DACG is an Army organization
- Established to control and support departure preparation
- Facilitates Army deployments
- In charge of load operations for movement of personnel when using civilian aircraft

# Air Force Aircraft Loading

- AF Aircraft Loadmaster is in charge of loading
  - Provides direction and instructions to Army unit's load teams
- UMO, with advice from the safety officer, will ensure the operation is conducted safely

# Specific Airfield and Flight Line Safety

- Do not wear headgear on the flight line
- Be aware of high noise hazards and wear hearing protection as needed
- Be cautious around operating engines' intake and exhaust
- Obey flight line access restrictions
- Ensure area specific safety is briefed to Soldiers

# Movement by Sea



# Port/Barge Operations

- Deploying unit personnel, supplies, and equipment by sea
  - Port is commanded or contracted by the Military Traffic Management Command (MTMC)
  - Assembled in a marshaling area when deemed necessary

# Marshaling Area

- An area to receive personnel, equipment, and supplies
- Hazards exist due to high traffic and movement of equipment and personnel
- Owning command retains responsibility and accountability



# Marshaling Area

*Continue*

- Labels, tags, documentation are verified
- Loads are checked for size parameters and proper blocking, bracing, and securing
- PMCS are conducted
- Hazardous cargo checked
- Preparation for movement to the staging area

# Staging Area

- Movement from marshaling area to staging area is per the call forward plan
- MTMC port commander assumes custody
- Port Support Activity (PSA) performs functions of:
  - Driving vehicles
  - Correcting deficiencies

# Staging Area

*Continue*

- MTMC element double-checks of actions taken in the marshaling area
  - Establishes and directs port communications
  - Provides safety briefings
  - Supervise embarkation
  - Establishes and directs safety policies and physical security procedures

# Life Support Facilities

All active sites must comply required standards



# Medical Support

- Ensure medical support is available
  - On site medical
  - Crash rescue
  - Local hospital support
  - Strip map to local hospitals
  - MEDEVAC support is available
  - Combat Life Savers at key areas



# Loading Areas

Simultaneous operations  
Be aware of hazards



**STAY  
ALERT!**

# Loading Operations

- Additional hazards
  - Poor lighting / visibility
  - Adverse weather conditions



# General Safety

- Wear Personal Protective Equipment
  - Hard hat/Kevlar
  - Gloves
  - Hearing Protection
  - Reflective vest and flashlights
  - Safety shoes (if issued)
  - Personal flotation devices

# Container Top Safety

- No one allowed on top of any containers except to:
  - Release/install bridge clamps
  - Release stuck or malfunction semi-automatic twist locks
  - Disengage semi-automatic twist locks on stacked containers

# Vessel Loading Methods

Lift On-Lift Off



LO-LO

Roll On-Roll Off



RO-RO

# Driving in Support of Port Ops

- Ensure drivers are licensed on:
  - Assigned vehicles and equipment
  - Special equipment
- Obey and enforce speed limits
- Ensure vehicles are ground guided

# Movement of Non-Operational Vehicles

- Ensure proper towing:
  - Tow bars are properly hooked
  - Safety chains/pins are installed
  - Proper shackles available for equipment
- High risk for pinching, crushing, falling, etc.
- Use caution

# Towing Aircraft

- Use ground guides
- Use proper ground handling equipment
- Mark all uneven ground surfaces
- Have materials to build clearance platforms

# Working Around and Inside the Ship

- Brief personnel on the following hazards:
  - Slips, trips, falls
  - High noise levels
  - Carbon monoxide poisoning
  - Falling objects
  - Objects overhead
  - Material handling equipment (MHE)

# Working Around and Inside the Ship

*Continue*

- Rotate personnel to limit exposure to <sup>d</sup> carbon monoxide and high noise levels
- Ensure drivers/ground guides know hand signals
- Do not stand between vehicles and other equipment
- Identify non-swimmers
- Enforce usage of PPE

# Check on Learning

- How many car/ground guides are needed to move a vehicle on a rail head and where is each positioned?
  - Three guides
    - One is on the rail car in front of the moving vehicle
    - One on each side of the rail car, on the ground

# Check on Learning

- What are some of the things to be aware of with spanners?
  - Poorly designed equipment
  - Must remain immobilized during movement of vehicle
  - Vehicles on spanners must keep moving

# Check on learning

- Who is responsible for activities in the marshalling area?
  - The deploying commander

# Check on learning

- What are the two ways of loading equipment on vessels?
  - Roll on- Roll off (RO-RO)
  - Lift on- Lift off (LO-LO)

# Check on learning

- Where are vehicles moved to after they are moved from the marshaling area?
  - Vehicles are moved from the marshaling area to the staging area

# Convoy Operations



Can be dangerous if not  
properly planned and executed

# Enabling Learning Objective C

Action:

Describe requirements and procedures for safe convoy operations.

Conditions:

During group discussions.

Standards:

Descriptions must address general requirements and specific requirements for movement by convoy.

# Convoy Planning Considerations

- Standing operating procedures (SOP) are developed to include:
  - Convoy operations
  - Responsibilities of leaders, drivers, assistant drivers, and senior occupants
  - Unit drivers training programs
  - Safety belt usage
  - Accident avoidance

# Convoy Planning Considerations

*Continue*

- Commanders will ensure:
  - Composite risk management is applied to all convoy operations
  - All risks are identified and controls are put in place
  - Convoy commander is fully briefed on the mission, duties, and responsibilities

# Convoy Preparation

- All drivers must:
  - Be properly licensed for their assigned vehicle
  - Get at least eight hours of sleep prior to convoy movement
  - Briefed regarding rest stops

# Personnel Readiness

- Soldier's responsibility
  - Conducting pre-combat checks
  - Ensuring they have all required equipment
- Leader's responsibility
  - Conducting pre-combat inspections (PCIs) allowing Soldiers time to correct discrepancies

# Convoy Vehicle Preparation

- Preventive Maintenance Check and Services are preformed (PMCS)
- Load plans are developed for all vehicles
- Reconnaissance (recon) of the route has been conducted (maybe map only)
- Strip maps of the route are placed in all vehicles

# Trailer Checks

- Trailer checks should include:
  - Chains and electrical cable connections
  - Support wheels fully up and locked
  - Brake lines connected
  - Cotter pin in tow pintle
  - Lights are operational



# Vehicle Load-Out



Safe load-out  
requires  
teamwork

Work together  
to lift heavy items



Help Prevent  
Injuries

# Vehicle Load-Out

*Continue  
d*

- Load per SOP/load plans
- Distribute loads evenly
- Secure loose equipment
- Clear egress routes for safe personnel exit
- Practice rollover drills prior to every mission

# MILVAN Load-Out

Standards and discipline are the best control measures!



Packing MILVANS For  
Shipment

# Vehicle Movement Considerations

- AR 385-10 establishes procedures for carrying out the Army Safety Program's motor vehicle accident prevention program
- FM 55-30 describes special instructions for vehicle operations

# Vehicle Movement

- Prior to moving check vehicle loads to ensure that all items are properly secured
- Vehicle operators must ensure that vehicles are clear of personnel and obstacles before moving
- Walk around the vehicles to make sure no one is in danger before the vehicle is started

# Vehicle Movement

*Continue  
d*

- All drivers and passengers will use safety belts in vehicles where they are provided
- Riders are prohibited from riding on the outside of vehicles
- Smoking is prohibited in and around vehicles

# Convoy Operations

- Every convoy must have:
  - Communication between the convoy commander vehicle and the front and rear vehicle
  - Recovery capabilities for all vehicles in the convoy
  - Emergency equipment
  - Combat Lifesaver with bag

# Convoy Briefing Topics

## What Everyone Needs to



# Brief Convoy Make-Up

- Number and types of vehicles in convoy
- Chain-of-Command and call signs
- Number of personnel and responsibilities in the convoy
  - Vehicle operators' responsibilities
  - Senior occupants' responsibilities

# Brief Convoy Speed

- Based on:
  - Road conditions
  - Traffic conditions
  - Local laws
  - Speed of the slowest vehicle
  - Catch up speed

Note: Driving too fast for conditions is a major factor in convoy accidents

# Brief Convoy Intervals

Proper intervals must be maintained



Note: Reducing intervals is a major factor in convoy accidents

# Brief Convoy Intervals

*Continue  
d*

- FM 4-01.45 recommends
  - 100 meters between vehicles (day)
  - 25 to 50 meters between vehicles (night)
  - 15 to 20 meters between vehicles (blackout drive)
- If the interval is reduced so should the speed

# Brief General Procedures

- Use of headlights
  - When
  - Where
- Breakdown procedures
- Weapon safety
  - Muzzle Awareness
  - Weapon status and clearing procedures

# Brief Routes of Travel

- Primary and alternate routes
- Convoy choking points
- Known and potential accident hazards
- Traffic patterns
- Construction
- Rest stops - adhere to rest cycles

Note: Another factor in  
convoy accidents is fatigue

# Brief Tactical Situation

- Weather
- Road condition
- Enemy activities
  - Past 24, 48, and 72 hours
  - Use of improvised explosive devices (IEDs)

# Improvised Explosive Devices

- Low cost, homemade explosive devices
- Found along main routes of travel
- May be visible or not
- Easily disguised and currently being used to target coalition forces



# Improvised Explosive Devices

*Continue*

- If found during convoy
  - Stop at least 300 meters from a suspected device

**WARNING:** Do not use SINCGARS

or any other radios within 300 meters

# Improvised Explosive Devices

*Continue*

- If found during convoy . . . .
  - Warn the trail vehicles – remember do NOT operate any radio within 300 meters
  - Secure the perimeter
  - Search the area for a secondary device
  - Be alert for remote detonation
- Determine grid location and record

# Check on Learning

- When assigning drivers for a convoy, what must leaders ensure?
  - Leaders must ensure all drivers are properly licensed and trained for their assigned vehicle

# Check on Learning

- What protective devices are mandatory for all drivers and passengers in or on Army-owned vehicles?
  - Safety belts

# Check on Learning

- When briefing the route of travel, what topics must be covered?
  - Hazards along route
  - Convoy choke points
  - Known and potential accident hazards
  - Enemy situation

# Check on Learning

- Before a vehicle is started in an assembly area what must a crewmember do?
  - Crewmember must walk completely around the vehicle to ensure that no one is in danger and that the area is free of obstructions or material that could be impacted by the vehicle

# Base / Camp Operations Safety



# Enabling Learning Objective D

## Action:

Describe considerations and requirements for base camp operations safety.

## Conditions:

During group discussions.

## Standards:

Descriptions must address base/camp layout considerations in terms of common hazards, field sanitation, and personal safety.

# Base Layout Considerations

- Separation of fuel and ammo storage
- Maintenance areas
- Living / sleeping areas
- Logistics storage
- Dining facility location
- Personal needs and hygiene requirements
- Disposal areas

# A Result of Fire



# Common Fire Hazards Overview

- Poor tent construction (host nation)
- Tent spaced too closely
- Uncontrolled/unauthorized fires or burning
- Overloaded circuits
- Daisy-chained electrical appliances
- Open, unprotected wires

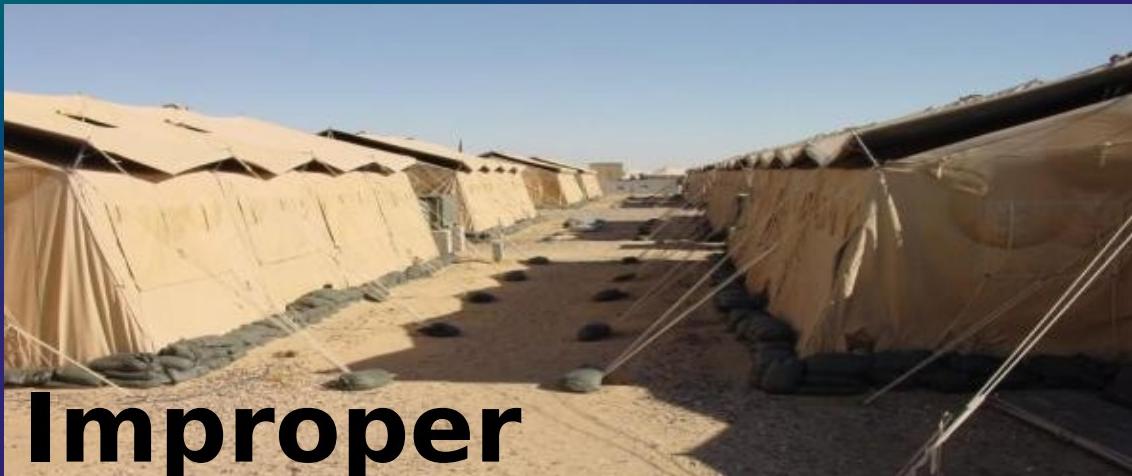
# Tent Construction

- Tents in Middle Eastern countries
  - Often treated with petroleum products
  - Can be very flammable
- National Fire Protection Association (NFPA) sets the flame propagation performance criteria for all tent fabric

# Tent Location and Spacing

- NFPA 101, Life Safety Code, 11.11.3
  - There shall be a minimum of 10 ft between stake lines
  - Adjacent tents shall be spaced to provide an area to be used as a means of emergency egress

# Fire Lanes



**Improper**



**Proper**

# Uncontrolled /Unauthorized Fire

- Burning trash
- Smoking in non-designated
- Burning candles, incense, etc.
- Use of unauthorized means of heating/warming

# Minimize Fire Damage

Only one out of 20 tents were lost in this fire because Soldiers knew what to do!



Practice fire safety and do what's right!

# Common Electrical Hazards

- Overloaded circuits
- Daisy chaining of extension cords and plug strips
- Open, unprotected wires

# Electrical Circuit Hazards

- 110 vs. 220 volt mismatches
- Improper transformer use
- Poor electrical connections
- Misuse of adapter plugs
- Poor or missing grounds
- Use of “plug strips” that are not surge protectors
- Daisy chaining



# Common Electrical Problems

- Limited electrical power available in work and living locations
- Host nation and FOB wiring is often not to standard
- Soldiers think available receptacles mean available power for laptops, stereos, refrigerators, heaters, air conditioners, etc.

# Common Electrical Problems

*Continue*

- Soldiers and others will make additions and modifications
- Power from generators is not uniform voltage and amperage varies which affects equipment

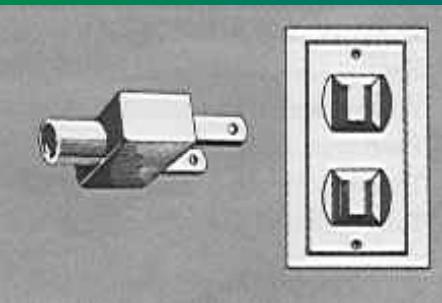
# Local Electrical Problems

## Substandard wiring



If it doesn't look right – report it!

# Different Electrical Plugs



A

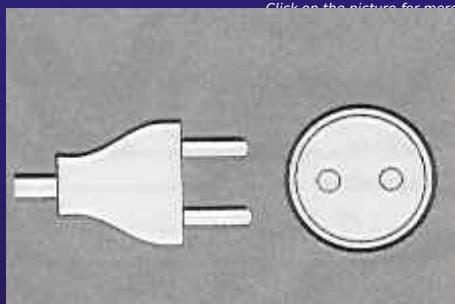
**Flat blade attachment plug**

*Click on the picture for more*

B  
**Flat blades (same as type A), but with round grounding pin**

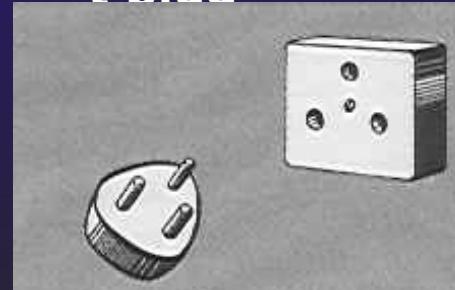


*Click on the picture for more*

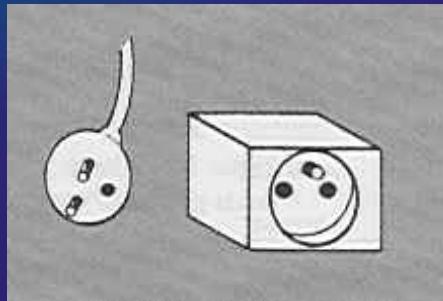


C

**Round pin attachment plug**

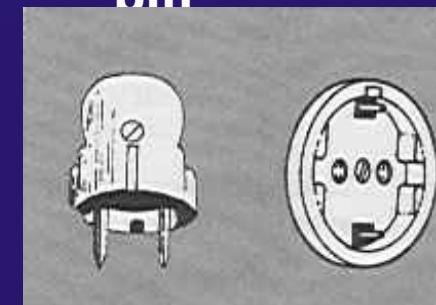


D  
**Round pins with ground**



E

**Round pin plug and receptacle with male grounding pin**



F

**"Schuko" plug and receptacle with side grounding**



G

**Rectangular blade plug**

*Click on the picture for more*

Note: there are additional types not shown

# Damaged Equipment



Due to improper wiring and/or power overload



# Hazardous Wire Splices



# Fire and Electrical Safety

- Continuously monitor and be alert for hazardous situations
- Ensure proper storage and disposal of:
  - Fuel, fuel cans, paint, and any hazardous materials (HAZMAT)
- Ensure ammunitions are properly stored, segregated, covered, and marked

# Enforce Fire and Electrical Safety Standards

- Good housekeeping
- No smoking within 50 feet of flammable, explosive, or combustible materials
- Correct and/or report unauthorized electrical equipment, wiring, receptacles etc. in workspaces and living spaces
- Safe means of egress

# Inspect All Means of Egress/Exits

- Ensure they are free from obstructions such as:
  - Concertina wire
  - Weapons Racks
  - Tables
  - Zipped up tent flaps
  - Personal equipment

# Means of Egress

- Clearly mark exits – luminescent signs are best
- Ensure adequate clearance from concertina wire to prevent entanglement
- Mark concertina exits with engineer tape/chem lights
- Ensure all non-functional exits are marked “Not an Exit”

# Emergency Evacuation Plans

- Develop emergency evacuation plans
  - Conduct exercises to ensure that the plan works
- Make sure all personnel safely evacuate to the designated area during drill or real evacuations

# Fire Equipment and Tools

- Have available and accessible
  - Fire extinguisher, pick axe, shovel, etc.
- Fire extinguishers
  - Proper number and placement
  - Correctly mounted
  - Correct type and size for situation
- Inspected monthly
- Recharge /replace as necessary

# Additional Fire Prevention Considerations

- Fuel trucks must be grounded as well as vehicles during refuel
- Fire fighting teams are identified and trained
- Procedures are understood for fuel and ammo delivery ,storage, and disposal operations

# Field Sanitation

- Requires command emphasis regarding personal hygiene and field sanitation practices
- Includes the need to protect from insects, rodents, and other disease transferring creatures

# Unit Field Sanitation Team

- Ensures water is safe for drinking
- Checks food for correct temperature
- Advises on waste disposal
- Advises on construction of washing facilities
- Sprays for insects
- Recommends adequate distance between latrines and dining facilities

# Water Testing

- Water buffaloes are one means of water storage
- Field sanitation team and preventive medicine are responsible for testing



Preventive  
Medicine Officer  
inspecting after  
maintenance has  
been completed

# Disposal of Other Wastes

- Garbage burial pit
- Incineration
- Soakage pits  
(liquids)



# Personal Health and Hygiene

- Use individual preventive medicine measures
  - Bathe/shower and wash hands often
  - Use insect repellent
  - Keep shirts buttoned and sleeves rolled down
  - Blouse pants inside boots
  - Wear clean uniforms

# Prevent Weather Injuries

- Educate soldiers on prevention of weather injuries
- When soldiers succumb to weather related injuries, It's critical for others to recognize the symptoms
- Start treatment as soon as possible to prevent the casualty's condition from deteriorating

# Weather Injuries - Prevention is the Key

- Educate soldiers on:
  - Hydration
  - Nutrition
  - Rest
  - Physical conditioning
- Acclimate
  - Limit exposure if possible
  - Wear loose, layered clothing

# Hot Weather Injury Awareness

- Recognize symptoms and treatments for heat related injuries
  - Sunburn
  - Heat Cramps
  - Heat Exhaustion
  - Heat Stroke
- Seek medical aid if condition does not improve

# Heat Can Kill!

## Prevention Works

### **Drink**

- Drink enough water to replace your sweat losses
- Don't wait to feel thirsty, your body may need water before you feel thirsty
- Remind your buddy to drink. Refill your canteens at every opportunity
- Look at your urine. If it is dark or if you have not urinated, you need to drink more

### How to spot Trouble

- Notify an instructor if you are:
- Dizzy
- Have a headache
- Nauseated or have vomited
- Feeling very tired or weak
- Confused or your buddy notices you're "acting differently"
- Sick or were sick yesterday
- On any medication

### **Eat**

- Eat meals to replace salts
- Drinking too much water and not eating enough salt may be fatal
- Do not follow low calorie diets while training in a hot environment
- Do NOT take any dietary supplements containing ephedrine (ma-huang) ANY time

# Water Consumption Table

	Easy Work	Moderate Work	Hard Work
Heat Category	Amount to Drink Qt/Hr (one canteen = 1 Qt)		
1	1/2	3/4	3/4
2	1/2	3/4	1
3	3/4	3/4	1
4	3/4	3/4	1
5	1	1	1

Do not drink more than 1 ½ qts per hour or 12 qts per day  
 Eat meals! Important for sodium and other electrolytes

**Easy Work** = Walking hard surface 2.5 mph <30# load, Weapon maintenance, Marksmanship training

**Moderate work** = Patrolling Walking sand 2.5 mph No load, Calisthenics

**Hard Work** = Walking sand 2.5 mph with load, Field assaults

# Cold Weather Injury Awareness

- Recognize symptoms and treatments for heat related injuries

• Hypothermia	• Dehydration
• Chilblains	• Frostbite
• Immersion/Trench Foot	• Carbon Monoxide Poisoning
• Snow Blindness	

Seek medical aid if condition does not improve

# Hazards of Stress and Fatigue

- As force reductions continue, the potential for stress- and fatigue-related problems can only increase
  - Everyone reacts differently to stress
  - Chronic stress takes more resources and time to address
- Sleep is one of the most important factors in fighting stress and fatigue

# Hazards of Stress and Fatigue

*Continue*

- Fatigue is a major contributor to accidents, lost productivity, and poor quality of life
  - Sleep is a physical necessity
  - Lack of sleep results in loss of mental abilities before physical performance is degraded

# Manage Stress and Fatigue

- Preserve safety, performance, and general well-being
- Adhere to good mission-scheduling practices
- Implement proven fatigue countermeasures
- Provide sleep-conducive environments for off-duty crews
- Make adequate daily sleep a top priority

# Reduce Stress and Fatigue

- Follow SOP (known standard) in field environment
- Incorporate training breaks and rest and relaxation (R&R) activities
- Use sleep plans
- Encourage proper nutrition
- Maintain good communications between leaders and Soldiers

# Stress and Fatigue Management



# Check on Learning

- What is the best method of marking exits to ensure safe Egress?
  - Clearly marked exits with luminescent signs are best.

# Check on Learning

- What two teams are responsible for water testing and waste disposal procedures?
  - Field Sanitation Team and Preventive Medicine are responsible for testing.

# Check on Learning

- What are some known tools and procedures used to help reduce stress and fatigue?
  - Use SOP in field environment
  - Incorporate training breaks / R&R activities
  - Use sleep plans

# Summary

- During the Tactical Safety Module of the Leader Safety Course we covered:
  - Predeployment and Redeployment
  - Movement Operations
  - Convoy Operations
  - Base Operations